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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,199	12/01/2003	Roy N. Karam		1341
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ROY N. KARAM 506 QUANCE AVE. SASKATOON, SK S7H-3B4 CANADA		EXAMINER PRESTON, ERIK D		
		ART UNIT PAPER NUMBER		
		2834		

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/724,199

**Applicant(s)**KARAM, ROY N. **Examiner**

Erik D. Preston

**Art Unit**

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Drawings*

The drawings are objected to under 37 CFR 1.83(a) because they fail to show the electrical relationship between the diodes as described in the specification. It is not clear in the drawings if the positive diodes are twinned with negative or other positive diodes. Submission of a circuit diagram would properly disclose this relationship. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

Claims 1 & 2 are objected to because of the following informalities: The phrase "...the said rectifier..." should be changed to "...~~the~~ said rectifier..." Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

Claims 1 & 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In the art when a pair of diodes are "twinned" this usually refers to a pairing of a positive and negative diode, the positive diode being mounted on a positive heat sink, and the negative diode being mounted on a negative heat sink. It is unclear in the claims if the applicant is claiming a positive and negative diode that are twinned and then mounted on a positive heat sink, or a negative diode mounted on a negative heat sink that is then parried with a twinned set of positive diodes both of which are mounted on a positive heat sink.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

As best as can be determined in view of the 112, claims 1 & 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matthai (US 4321664) in view of Asao (US 6198187).

With respect to claim 1, all of the material before the 5<sup>th</sup> line of the claim (the preamble of the Jepson claim) is considered to be prior art, and Matthai teaches a rectifier (Fig. 4, #113) comprising 9 diodes, 6 of which are twinned (Fig. 4, 14a-c & 15a-c) and soldered on a positive heat sink (Fig. 4, #39 & 40), but it doesn't teach all of the diodes being button diodes, or the other 3 diodes being soldered on a negative heat sink which is seated on dual protruding ground tabs. However, Asao teaches diodes (Fig. 1, #23) soldered on a negative heat sink (Fig. 4, #24) which is seated on dual ground tabs, and button diodes were very well known in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the rectifier of Matthai in view of the heat sink as taught by Asao because it provides a means for more effectively cooling the diodes of a rectifier (Asao, Col. 3, Lines 14-43), and it also would have been obvious to use button diodes because they can be press fit into a heat sink thereby more effectively transferring their heat to a heat sink than other types of diodes.

With respect to claim 2, Matthai in view of Asao teaches the rectifier of claim 1, and Matthai teaches that said rectifier includes three air flow paths (Fig. 4, #71) within the terminal block of said rectifier which allow for additional flow of air around the diodes of said rectifier consisting of 9 button diodes, three of which are twinned and soldered on the positive heat sink side, and three diodes that Asao teaches are soldered on the negative heat sink of an alternator (Fig. 1), but it doesn't teach the button diodes specifically being 50 amp button diodes. However, 50 amp button diodes were well known to those of ordinary skill in the art at the time of the invention, and it would have

been obvious to use the 50 amp diodes in an application that ran up to 50 amps of current through the rectifier.

**Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 3609428, US 4720645, US 6150196, US 6184600, US 6359352, US 6552908 & US 6731030. All of the above are rectifiers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erik D. Preston whose telephone number is (571)272-8393. The examiner can normally be reached on Monday through Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



05/12/2005



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